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Matthias Franz

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EXAMINER

RASHID, DAVID

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/501,253	Applicant(s) FRANZ, MATTHIAS	
	Examiner DAVID P. RASHID	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-17, 19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-17, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

[1] All of the examiner's suggestions presented hereinafter have been assumed for examination purposes, unless otherwise noted.

Continued Examination Under 37 CFR 1.114

[2] A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 10, 2008 has been entered.

Amendments

[3] This office action is responsive to the claim and specification amendment received on June 10, 2008. Claims 11-17 and 19-20 remain pending.

Claim Rejections - 35 USC § 101

[4] In response to applicant's claim amendments and remarks received on June 10, 2008, the previous claim 35 USC § 101 rejections are withdrawn.

Claim Rejections - 35 USC § 102

[5] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[6] **Claims 11-17 and 19-20** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 5,923,027 (issued Jul. 13, 1999) [*hereinafter* “Stam et al.”].

Regarding **claim 11**, *Stam et al.* discloses a method for recognizing a visual obstruction “moisture on a surface” at 1:8-12) using an image sensor (fig. 1) associated with a vehicle (“vehicle’s windshield” at 1:8-12), comprising:

recording an image (fig. 5, item 46) by the image sensor (fig. 1), wherein the image sensor is focused on an external region beyond the vehicle (the image sensor is “focused” on anything within its view (as opposed to something not in its view, thus not “focused” on it), including the external region to the vehicle);

analyzing the image (fig. 5, item 46) recorded by the image sensor, wherein at least one of a presence and a type of a visual obstruction (the presence of moisture/fog on the windshield; “Result” column in Table at 11:19-25) is determined by the analysis of the image (fig. 5; fig. 6), wherein the analysis includes measuring a blurriness (fig. 5, items, 48, 50, 52, 58, 64) of at least a portion of the image (a “portion” of the image is both taken in items 46, 56 in fig. 5);

producing a signal (“YES” and “NO” from item 52 in fig. 5) which indicates one of the presence and the type of the visual obstruction (the presence of moisture/fog on the windshield; “Result” column in Table at 11:19-25); and

controlling downstream systems (fig. 6, items 40, 42) based on the signal.

Regarding **claim 12**, *Stam et al.* discloses the method of claim 11, wherein the at least one of the presence and the type of the visual obstruction (the presence of moisture/fog on the

windshield; “Result” column in Table at 11:19-25) is determined by measuring a relative blurriness of different parts (“EACH PIXEL” in item 48 of fig. 5) of the image (fig. 5, item 46).

Regarding **claim 13**, *Stam et al.* discloses the method of claim 11, wherein the blurriness is measured based on one of a contrast spectrum of the image, a Fourier spectrum (“LAPLACIAN” in item 48 of fig. 5; equation (1) being the Fourier also used), and a autocorrelation function of the image.

Regarding **claim 14**, *Stam et al.* discloses the method of claims 11, wherein the at least one of the presence and the type of visual obstruction (the presence of moisture/fog on the windshield; “Result” column in Table at 11:19-25) is determined based on a measured distribution (“SUM THE RESULTS” in item 48 of fig. 5) of the blurriness by comparison (fig. 5, items 50, 52) with reference distributions (“ZERO CALIBRATION” in item 50 of fig. 5).

Regarding **claim 15**, *Stam et al.* discloses the method of claim 11, wherein an analysis of at least one image recorded (fig. 5, item 56) after an initial wiping operation (fig. 5, item 54) on a windshield of a motor vehicle (“vehicle’s windshield” at 1:8-12) is used to determine whether to initiate a next wiping operation (“STORE AS CALIBRATION” in item 64 of fig. 5 to be used again to actuate wipers in the future in item 54 of fig. 5).

Regarding **claim 16**, *Stam et al.* discloses the method of claim 15, wherein the determination regarding the next wiping operation (next wiping operation after initial loop from item 46 to 64 in fig. 5 already occurred to produce new calibration data from item 64 in fig. 5) is based on blurriness of a first image (“ACQUIRE IMAGE” in item 64 of fig. 5 and creating the calibration data from it to be later used) that was recorded immediately after the initial wiping operation (fig. 5, item 54) in comparison to blurriness of an image recorded subsequent (second

loop from item 46 to 64 is now based off of new calibration (from item 64 of first loop) in items 50, 52) to the first image .

Regarding **claim 17**, *Stam et al.* discloses the method of claim 11, further comprising:
turning on a windshield light if a scene has a contrast below a predetermined threshold (Col. 9:56-67 wherein the contrast is “dark conditions” as opposed to normal).

Regarding **claim 18**, *Stam et al.* discloses the method of claim 11, wherein the image sensor (fig. 2) is focused on a region external (fig. 3, item 70; “Exterior Fog” in “Result” column in Table at 11:19-25) to the vehicle.

Regarding **claim 19**, claim 11 recites identical features as in claim 19. Thus, references/arguments equivalent to those presented above for claim 11 are equally applicable to claim 19.

Regarding **claim 20**, *Stam et al.* discloses the device of claim 19, wherein the signal (“YES” signal from item 52 of fig. 5) is used to control at least one of windshield wipers (fig. 5, item 54), windshield heating systems, and windshield washer systems.

Response to Amendment

[7] Applicant’s arguments filed on June 10, 2008 with respect to independent **claims 11** and **19** have been respectfully and fully considered, they are not found persuasive.

Summary of Remarks regarding claims 11 and 19:

Applicant argues that to the extent that the Office may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Office must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art." ~ M.P.E.P. §

2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. (Applicant Resp. at 5, Jun. 10, 2008.)

The *Stam et al.* reference does not identically disclose (or even suggest) feature that the image sensor is focused on an external region beyond the vehicle, as provided for in the context of claims 11 and 19, as presented.

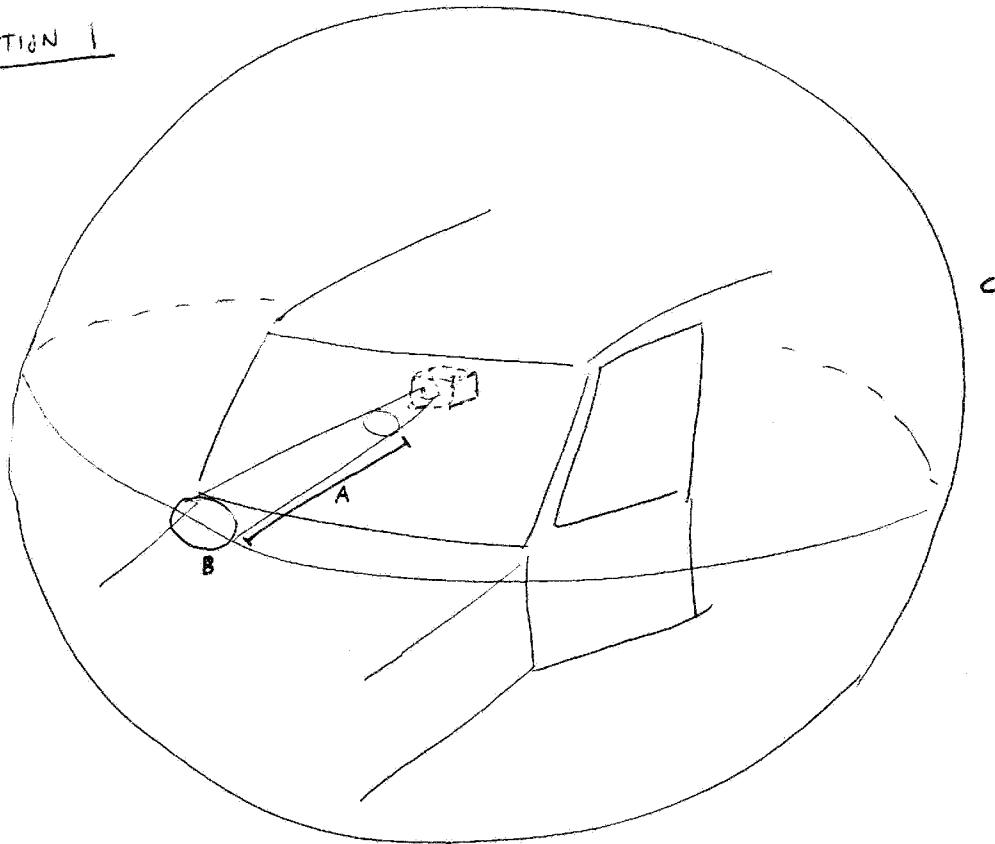
Applicant argues that the Office has not followed the plain meaning of the term "focused," and has confused the term "focused," with the terms "view" and "line-of- sight." Although the image sensor of *Stam et al.* may include a blurry image of an external region within its "view" or "line-of-sight," the image sensor of *Stare* is clearly not "focused" on an external region beyond the vehicle. In this regard, *Stare* describes its focus throughout its disclosure. For example, *Stam et al.* states at column 3, lines 60 to 64 that "the present invention causes raindrops and other sources of moisture on the windshield to be sharply focused while distant objects beyond the windshield are severely blurred in the image." In addition, *Stam et al.* states at column 4, lines 64 to 66 that "objects at the approximate distance of the windshield are sharply in focus at the image plane while objects at a longer distance are out of focus and blurred." Further, *Stam et al.* states at column 8, lines 26 to 29 that "the present invention images the scene in such a way that distant objects are out of focus and objects at the windshield distance are in focus." Therefore, notwithstanding the plain meaning of the term "focused," *Stare* clearly states that its optical system is focused on the windshield, and not on an external region beyond the vehicle. (Resp. at 6.)

Examiner's Response regarding claims 11 and 19:

However, the Examiner has now disclosed two interpretations of the limitation “wherein the image sensor is focused on an external region beyond the vehicle” for better clarity.

Interpretation 1:

INTERPRETATION 1
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Applicant's response addressing Interpretation 1 that “the Office has not followed the plain meaning of the term ‘focused,’ and has confused the term ‘focused,’ with the terms ‘view’ and ‘line-of- sight’” is unpersuasive. The word “focus” may be interpreted as “a point of concentration”. See Merrian-Webster Online, 2007-2008, “focus” n. def. 5b, available at <http://www.m-w.com/dictionary>.

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MPEP § 2111 titled “Claim Interpretation; Broadest Reasonable Interpretation” states, in relevant part:

During patent examination, the pending claims must be “given their broadest reasonable interpretation consistent with the specification.” >The Federal Circuit’s en banc decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the “broadest reasonable interpretation” standard:

The Patent and Trademark Office (“PTO”) determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” In *re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must “conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.” 37 CFR 1.75(d)(1).

MPEP § 2111 [R-5].

In the drawing for Interpretation 1, item B recorded from the image sensor is a focused portion of sphere C (all possibilities from which the image sensor can focus) under a standard definition of "focus". Any direction for which the image sensor points at will be "focusing" on that particular portion item B of all possibilities item C (unless the shutter is closed). A "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art” (*see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int’f. 1990)) has been established by the drawing for Interpretation 1. Unless the image sensor is off, or the shutter is closed, there is no confusion that the image sensor must be focused on a specific portion B of all possibilities C, as this is an “inherent characteristic[[s]] [that is] flow[ing] from the teachings of the applied art.”

Interpretation 1 still stands as *Stam et al.* anticipating the claims in question. *See* Final Rejection at 8-9, Jan. 7, 2008.

Interpretation 2:

The Examiner contends that *Stam et al.* anticipates the claims in question explicitly as well, as it is just not a question of inherency as Applicant argues. Fig. 3, item 70 is an "external region beyond the vehicle" that is also being focused on and "[i]f fog is present, the light will be reflected by Lambertian reflectance causing the fog to be imaged as a small spot 70 (FIG. 3).", *Stam et al.*, 10:38-40. "The location of these spots 70, 72 may be used to represent the presence of interior and/or exterior fog on the windshield 26.", *Stam et al.*, 10:43-45. Item 70 is a region beyond the vehicle. The "end" of the vehicle is the exterior surface of the windshield glass in fig. 3. Beyond this part of the vehicle is "the fog to be imaged as a small spot 70" as the fog would not be contained inside the glass (and thus an interior part of the vehicle but an exterior part).

Conclusion

[8] Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/
Examiner, Art Unit 2624

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